

~~In re~~ Application of:

Serial No.: 09/105,150

Filed: June 26, 1998

For: TERMINAL SYSTEM WITH
DEFORMED SCREW

PATENT

Appeal No.: _____

Group Art Unit: 2833

Examiner: NGANDJUI, A.

BRIEF ON APPEAL

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APPENDIX A - COPY OF CLAIMS ON APPEAL



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	:	PATENT
Angelo T. DONFRANCESCO et al.	:	Appeal No.: _____
Serial No.: 09/105,150	:	Group Art Unit: 2833
Filed: June 26, 1998	:	Examiner: NGANDJUI, A.
For: TERMINAL SYSTEM WITH DEFORMED SCREW	:	

APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

Commissioner for Patents
Washington, D.C. 20231

Sir:

For the appeal to the Board of Patent Appeals and Interferences from the decision dated November 29, 2000 of the Primary Examiner finally rejecting claims 1, 4-16 and 18 in connection with the above-identified application, Applicant-Appellant submits the following brief in accordance with 37 C.F.R. §1.192.

1. Real Party in Interest

The inventors, Angelo T. DonFrancesco and Nelson Bonilla, assigned their entire right, title and interest in the patent application to Hubbell Incorporated of Orange, Connecticut.

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2. Related Appeals and Interferences

There are no other related appeals or interferences known to Appellant, Appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

3. Status of Claims

Claims 1, 4-16, and 18 are pending.

In the final Office Action dated November 29, 2000, claims 1, 4-16 and 18 were finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,340,497 to Balint in view of U.S. Patent No. 3,736,741 to Paratte. Claims 1, 4-16 and 18 are on appeal. No claim is allowed.

4. Status of Amendments

No amendment was filed subsequent to the final rejection of November 29, 2000.

5. Summary of the Invention

The present invention relates to a terminal assembly and a method of forming a terminal assembly. The terminal assembly 10 has a terminal base 12 with an internally threaded bore 38 and an externally thread screw shank 44 with opposite first and second ends. The head 46 of the screw 14 is located at the first end of the shank 44 and the second end 52 is circular and substantially planar. A deformation or stake 54 is formed in a portion of the external thread 50 of the shank 44 adjacent the second end 52 and extends along a cord of the second end offset and perpendicular to a longitudinal axis of the shank (Fig. 3 and page 7, lines 3-5). The deformation limits removal of the screw 14 from the bore 38. A portion of the external thread

50 forms a deformation 56 which has a reduced width between adjacent crests thereof relative to other portions of the external thread (page 7, lines 5-9).

A backing plate 16 has a central aperture 66 for receiving the shank 44 and is positioned between the head 46 and the terminal base 12. Additionally, first and second depending tabs 60, 62 depend from backing plate 16 and are respectively received in first and second openings 40, 42 in terminal base 12 (page 7, lines 17-19).

By forming the terminal assembly in this manner, the deformation acts as a stop to limit the degree of removal of the screw from the bore in the terminal base. This allows the backout of the screw to be set to a predetermined dimension with a relatively high tolerance. Additionally, the screw can be backed out to its maximum extent without it becoming disengaged from the terminal base since the deformation prevents threading beyond the deformation. Forming the stake in the screw planar end facilitates its formation.

6. Issue Presented for Review

The sole issue presented for review is as follows:

Whether claims 1, 4-16 and 18 are unpatentable under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 3,340,497 to Balint in view of U.S. Patent No. 3,736,741 to Paratte.

7. Grouping of Claims

For purposes of this appeal, all claims stand or fall separately.

8. Argument

A. The Rejection

Claims 1, 4-16 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,340,497 to Balint (hereafter the Balint patent) in view of U.S. Patent No. 3,736,741 to Paratte (hereafter the Paratte patent). The Balint patent is cited for a terminal assembly having a terminal base 3 with a bore 5 and an internal thread 6, and a screw 8 having a deformation 35 to limit the removal of the screw from the bore. The Paratte patent is cited for a deformation 13 allegedly being a stake formed in the second end of a shank and extending along a chord of the second end. In support of the rejection, the Examiner contends that it would have been obvious "to modify the terminal of Balint by forming a deformation being a stake formed in a second end of a shank and extending along a chord of the second end as taught by Paratte to prevent the screw from backing out of the hole."

The Balint patent is also alleged to disclose a shank offset from a longitudinal axis, a deformation having a reduced width between adjacent thread crests, a backing plate 4 with a central aperture 7 and depending tabs 13, a terminal base with openings 2 and a contact 41, and a screw with a thread layer that the internal thread in the base.

B. The Paratte Patent Does Not Teach or Suggest Modifying the Balint Patent

As seen in Figs. 2 and 3, the Balint patent teaches a deformation 35 extending along only the exterior longitudinal surface of the shank 8 to prevent full withdrawal of the screw from hole 5. The Balint patent does not disclose, teach or render obvious a stake extending in the circular and planar end of a screw shank and along a chord of the second end of a screw.

The Paratte patent relates to securing an electrical cell 5 in a timepiece housing 2 having two tempered steel washers 9 and 10 and two screws 11 and 12. Each washer has a cut-

away washer face 13 forming a chord that makes an acute angle with the smaller base of the washer and bites into the lateral wall of cell 5. When screws 11 and 12 are screwed into bores 15 and 16, cell 5 makes good contact with negative pole 6, according to the operation described in the Paratte patent, see Figs. 2 and 3 and col. 2, lines 37-50.

As described above, the Examiner states that it would have been obvious to modify the terminal of the Balint patent using the washer face or deformation 13 taught by Paratte to prevent the screw in the Balint patent from backing out of the hole 5. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so..." MPEP §2143.01. The Paratte patent fails to contain any motivation to form a stake along a bottom of a screw that deforms threads and prevents the screw from backing out of a hole. Specifically, washer face 13 is not a stake in the circular end of a screw shank that deforms screw threads, but is merely a cut-away face that forms a chord and makes an acute angle with the smaller base of an unthreaded washer. Each Paratte surface 13 is a surface for engaging and retaining cell 5 and does not control the movement of the respective screw 11 and 12 by disrupting the threads of the screws and preventing the screws from backing out.

The Federal Circuit has held that despite the simple concept of an invention, the PTO has the burden of finding "the specific understanding or principal within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed." See *In re Werner Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000). The Examiner, in this situation, has not pointed to any specific principle or motivation in the prior art that would lead one skilled in the art to arrive at the invention as claimed. "[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for

combination in the manner claimed." *In re Werner Kozab*, 55 U.S.P.Q.2d at 1371. If no particular finding can be made as to the reason one skilled in the art would have put a stake at the end of the screw in the Balint patent, then the Examiner cannot make an obvious type rejection. Since the Paratte patent does not suggest modifying the Balint screw as recited in the claims on appeal, the required teaching or suggestion to combine these two patents is missing and the rejection cannot stand.

The Examiner is using his knowledge of the invention, in hindsight, to conclude improperly that one skilled in the art would have found it obvious to form a stake in the circular end of the screw shank in the Balint patent in view of the teachings of the Paratte patent. However, such "hindsight reconstruction" is impermissible in reaching a finding of obviousness. *See, e.g., W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

Furthermore, the Examiner has stated that "In response to the applicant's argument (page 2) that 'the Paratte deformation is not a stake in the circular end of a screw shank and does not teach or suggest modifying the non-analogous Balint wire terminal. Applicant's argument is correct." This statement directly contradicts the Examiner's attempt to combine the Balint and Paratte patents to render the claims of this application obvious. If the Balint and Paratte patents are nonanalogous and do not suggest the alleged modification, as argued by Appellant and agreed to by the Examiner, then these two patents cannot be combined to render the appealed claims obvious.

C. The Alleged Combination of Does Not
Produce the Claimed Method or Structure

Even if the teachings of the Paratte patent were applied to the Balint patent, such teaching would not result in a stake formed in the second end of a screw shank and extending along a chord of the second end. Rather, at best, this combination would result in a screw having a portion of its head cut-away along a chord.

As stated above, Balint only teaches a deformation 35 extending only along the exterior longitudinal surface of the shank 8, while the Paratte patent only teaches a washer having a cut-away face 13 along a chord. No teaching exists in either patent of a **stake** formed along a chord in an end of a shank, especially a screw shank. Therefore, the cited patents do not teach all the elements of the independent claims.

The Examiner, in response to this argument, states that "In Column 2, lines 59-67, Paratte details the screw having a staked portion." However, in column 2, lines 57-67, the Paratte patent specifically states that each screw can have a head with a cut-away chord, not a stake formed in the bottom of the screw. Again, this disclosure merely results in the combination of the screw in Balint patent having a portion of its head cut-away along a chord, as described above.

Furthermore, as stated in column 2, lines 62-66, the screw head is intended to penetrate into the housing and thus bite into the lateral wall of the cell. This cut-away portion clearly does not teach or suggest a stake can be formed along a chord in an end of a shank for deforming the screw thread to limit removal of a screw from a bore.

D. Claims 6-8 and 12-14 Are Distinguished


Claims 6-8 and 12-14 recite, among other things, a backing plate 16 that receives the shank between the screw head and the terminal base, and has first and second depending tabs on opposite sides thereof that are received in first and second openings in the terminal base.

The Examiner cites the Balint body 4 of clip 3 as a backing plate. However, the body 4 of clip 3 is part of the terminal, which is internally threaded to receive the screw. This Balint structure cannot also constitute the backing plate. At best, the clip 3 and the annular portion 6 may be construed as the terminal base and body 4 may be construed as the body portion; however, the Balint patent does not disclose, teach or suggest a one tab depending from body portion 4, let alone two tabs.

9. Conclusion

In view of the foregoing, Applicants-Appellants submit that the rejection of claims 1, 4-16 and 18 under 35 U.S.C. §103(a) as being unpatentable over the Balint and Paratte patents is untenable. Thus, Applicants-Appellants request that the rejection be reversed.

Respectfully Submitted,


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APPENDIX - COPY OF CLAIMS ON APPEAL

1. A terminal assembly, comprising:
 - a terminal base having a bore with a internal thread;
 - a screw having a shank with opposite first and second ends and with an external thread, and having a head on said first end of said shank, said second end of said shank being circular and substantially planar; and
 - a deformation in a portion of said external thread adjacent said second end of said shank, said deformation being a stake formed in said second end of said shank and extending along a chord of said second end;whereby said deformation limits removal of said screw from said bore.
4. A terminal assembly according to claim 1 wherein
said stake is offset from and extends perpendicular to a longitudinal axis of said shank.
5. A terminal assembly according to claim 1 wherein
said portion of said external thread forming said deformation has a reduced width between adjacent crests thereof relative to other portions of said external thread.
6. A terminal assembly according to claim 1 wherein
a backing plate has a central aperture receiving said shank and is positioned between said head and said terminal base.

7. A terminal assembly according to claim 6 wherein
said backing plate comprises a depending tab; and
said terminal base comprises an opening slidably receiving said tab.
8. A terminal assembly according to claim 6 wherein
said backing plate comprises depending first and second tabs on opposite side
edges thereof; and
said terminal base comprises first and second openings slidably receiving said
first and second tabs, respectively.
9. A terminal assembly according to claim 1 wherein
said terminal base comprises a contact extending therefrom.
10. A terminal assembly according to claim 1 wherein
said external thread has an axial length sustaining greater than an axial length
of said internal thread.
11. A terminal assembly, comprising:
a terminal having a base plate including a bore with an internal thread of a first
axial length;
a screw having a shank with opposite first and second ends and with an
external thread of a second axial length threadedly mating with said internal thread, and
having a head on said first end of said shank, said second end of said shank being planar and
circular, said second axial length being substantially greater than said first axial length; and

a stake formed in and extending along a chord of said second end of said shank, said stake creating a deformed portion of said external thread having a reduced width between adjacent crests thereof relative to other portions of said external thread, said deformed portion of said external thread forming a stop which does not threadedly mate with said internal thread.

12. A terminal assembly according to claim 11 wherein
a backing plate has a central aperture receiving said shank and is positional between said head and said terminal.

13. A terminal assembly according to claim 12 wherein
said backing plate comprises a depending tab; and
said terminal base comprises an opening slidably receiving said tab.

14. A terminal assembly according to claim 12 wherein
said backing plate comprises depending first and second tabs on opposite side edges thereof; and
said terminal base comprises first and second openings slidably receiving said first and second tabs, respectively.

15. A terminal assembly according to claim 11 wherein
said terminal comprises a contact extending from said base plate.

16. A method of forming a terminal assembly, comprising the steps of:

threading an external thread of a shank of a screw into a bore in a terminal with an internal thread, the shank having opposite first and second ends with a head at said first end; and

deforming a portion of the external thread adjacent the second end of the shank to limit the amount the screw can be backed out of the bore by staking said second end along a line extending across the second end and offset from and perpendicular to a longitudinal axis of the shank.

18. A method according to claim 16 wherein

said shank is placed within a central aperture of a backing plate before being threaded into the bore.